

Express Mail No.: <u>EV 335 857 826 US</u>

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Ish-Horowicz et al.

Confirmation No.: 8177

Serial No.: 09/783,931

Art Unit: 1646

Filed: February 15, 2001

Examiner: Claire M. Kaufman

ANTIBODIES TO VERTEBRATE Attorney Docket No.: 7326-122 For:

DELTA PROTEINS AND

FRAGMENTS

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.56 and § 1.97

Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

Sir:

In accordance with the duty of disclosure imposed by 37 C.F.R. § 1.56 and § 1.97 to inform the Patent Office of all references coming to the attention of each individual associated with the filing or prosecution of the subject application, which are or may be material to the patentability of any claim of the application, Attorneys for Applicants hereby direct the Examiner's attention to the references A01-A21, B01-B15, C01-C64 listed on the attached revised form PTO 1449 entitled "List of References Cited by Applicant". A copy of each of references A09-A21, B13-B15, and C55-C64 are submitted herewith.

This application claims priority to U.S. Application Serial No. 08/981,392, filed April 7, 1998, now U.S. Patent No. 6,262,025, issued July 17, 2001. Pursuant to 37 C.F.R.§ 1.98(d), copies of the listed references A01-A08, B01-B12, and C01-C54 have not been included herein as such copies are available in parent application Serial No. 08/981,391, filed April 7, 1998.

While not to be construed that the Examiner should not review and consider all of the listed references, the Examiner's attention is particularly directed to the following references: U.S. Patent No. 5,849,869 (A02); U.S. Patent No. 5,789,195 (A03); International Publication No. WO 98/51799 (B01); International Publication No. WO 98/45434 (B02); International Publication No. WO 97/19172 (B06); International Publication No. WO 94/07474 (B10); International Publication No. WO 92/19734 (B12);

International Publication No. WO 97/01571 (B14); International Publication No. WO 00/02897 (B15); Artavanis-Tsakonas (C02); Fehon et al. (C14); Haenlin et al. (C19); Kooh et al. (C25); Kopczynski et al. (C28); Muskavitch et al. (C33); Vässain et al. (C47); Xu et al. (C53); Henrique et al. (C55); and Myat et al. (C64).

Identification of the listed references is not to be construed an admission of Applicants or Attorneys for Applicants that such references are available as "prior art" against the subject application.

Applicants respectfully request that the Examiner review the foregoing references and that the references be made of record in the file history of the application.

Pursuant to 37 C.F.R. § 1.97(b)(3), no fee is believed due, as this Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. However, should the Patent Office determine otherwise, please charge the required fee to Pennie & Edmonds LLP Deposit Account No. 16-1150. A copy of this sheet is enclosed for accounting purposes.

Respectfully submitted,

Date: September 25, 2003

Geraldine F. Baldwin

2 No.)

By:

Lolliam Thomann

40,203

PENNIE & EDMONDS LLP 1155 Avenue of the Americas New York, New York 10036-2711

(212) 790-9090

Express Mail No.: EV 335 857 826 US

LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)

ATTY DOCKET NO.	APPLICATION NO
7326-122	09/783,931
APPLICANT	
Ish-Horowicz et al.	
FILING DATE	GROUP
 February 15, 2001	1646

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A01	5,856,441	1/5/99	Artavanis-Tsakonas et al.			
	A02	5,849,869	12/15/98	Artavanis-Tsakonas et al.			
	A03	5,789,195	8/4/98	Artavanis-Tsakonas et al.			
N. R	A04	5,786,158	7/28/98	Artavanis-Tsakonas et al.			
	A05	5,780,300	7/14/98	Artavanis-Tsakonas et al.			
	A06	5,750,652	5/12/98	Artavanis-Tsakonas et al.			
	A07	5,648,464	7/15/97	Artavanis-Tsakonas et al.			
" <u>-</u> "	A08	5,637,471	6/10/97	Artavanis-Tsakonas et al.			
	A09	5,869,282	2/9/99	Ish-Horowicz et al.			
	A10	6,004,924	12/21/99	Ish-Horowicz et al.			
	A11	6,083,904	7/4/00	Artavanis-Tsakonas et al.			
	A12	6,090,922	7/18/00	Artavanis-Tsakonas et al.		1	
	A13	6,149,902	12/21/00	Artavanis-Tsakonas et al.			
,	A14	6,436,650	8/20/02	Artavanis-Tsakonas et al.			
	A15	09/195,524		Artavanis-Tsakonas et al.			11/19/98
	A16	09/121,457		Artavanis-Tsakonas et al.			7/23/98
	A17	09/908,322		Ish-Horowicz et al.			7/17/01
	A18	09/352,585		Ish-Horowicz et al.			7/13/99
	A19	10/434,663		Artavanis-Tsakonas et al.			5/8/03
	A20	S/N: to be assigned Atty.Doc.No. 7326-128		Artavanis-Tsakonas et al.			7/18/03
•	A21	10/661,002		Artavanis-Tsakonas et al.			9/10/03

FORMEON		TO COTTO ATTRICTO
REDRECTO	PAIRINI	DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSL	ATION
							YES	NO
	B01	WO 98/51799	11/19/98	PCT				
	B02	WO 98/45434	10/15/98	PCT				
	B03	WO 98/20142	5/14/98	PCT				
	B04	WO 98/17793	4/30/98	PCT				
	B05	WO 97/45143	12/4/97	PCT		III R		
	B06	WO 97/19172	5/29/97	PCT				
	B07	WO 97/18822	5/29/97	PCT		1		
	B08	WO 97/11716	4/3/97	PCT				
	B09	WO 96/27610	9/12/96	PCT				
	B10	WO 94/07474	4/14/94	PCT				
	B11	WO 93/12141	6/24/93	PCT				
	B12	WO 92/19734	11/12/92	PCT				

W ***	B 13	EP 0 861 894 A1	9/2/98	Europe		
P 2 5 2003	\$ 14	WO 97/01571	1/16/97	PCT		
<u>~</u>	0 3315	WO 00/02897	1/20/00	PCT		

PADEMA	OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)
C01	Apella et al., 1987, "The receptor-binding sequence of urokinase", J. Biol. Chem. 262:4437-4440
C02	Artavanis-Tsakonas, 1995, "Notch signaling", Science 268:225-232
C03	Artavanis-Tsakonas, 1988, "The molecular biology of the <i>Notch</i> locus and the fine tuning of differentiation in <i>Drosophia</i> ", Trends Genet. 4:95-100
C04	Artavanis-Tsakonas & Simpson, 1991, "Choosing a cell fate: a view from the Notch locus", Trends Genet. 7:403-408
C05	Bierkamp & Campos-Ortega, 1993, "A zebrafish homologue of the <i>Drosophila</i> neurogenic gene <i>Notch</i> and its pattern of transcription during early embryogenesis", Mech. Dev. 43:87-100
C06	Campos-Ortegan, 1993, "Mechanisms of early neurogenesis in Drosophia melanogaster", J. Neurobiol. 24:1305-1327
C07	Chou, P. & Fasman, G., 1974, "Prediction of protein conformation", Biochemistry 13:222
C08	Coffman et al., 1990, "Xotch, the xenopus homolog of drosphila notch", Science 249:1438-1441
C09	Coffman et al., 1993, Expression of an extracellular deletion of <i>Xotch</i> diverts fate in Xenopus embryos", Cell 73:659-671
C10	Conlon et al., 1995, "Notch 1 is required for the coordinate segmentation of somites", Development 121:1533-1545
C11	de la Concha et al., 1988, "Functional interactions of neurogenic genes of <i>Drosophila melanogaster</i> ", Genetics 118:499-508
C12	Doe, 1992, "Molecular markers for identified neuroblasts and gangolin mother cells in the <i>Drosophila</i> central nervous system", Development 116:855-863
C13	Doe & Goodman, 1985, "Early events in insect neurogenesis", Dev. Biol. 111:206-219
C14	Fehon et al., 1990, "Molecular interactions between the protein products of the neurogenic loci <i>notch</i> and <i>delta</i> , two EGF-homologous genes in drosophila", Cell 61:523-534
C15	Fleming et al., 1990, "The gene Serrate encodes a putative EGF-like transmembrane protein essential for proper ectodermal development in Drosophila melanogaster", Genes Dev. 4:2188-2201
C16	Fortini & Artavanis-Tsakonas, 1993, "Notch: neurogenesis is only part of the picture", Cell 75:1245-1247
C17	Furie & Furie, 1988, "The molecular basis of blood coagulation", Cell 53:505-518
C18	Greenwald, 1994, "Structure/function studies of lin-12/notch proteins", Curr. Opin. Genet. Dev. 4:556-562
C19	Haenlin et al., 1990, "The pattern of transcription of the neurogenic gene Delta of Drosophila melanogaster", Development 110:905-914
C20	Heitzler & Simpson, 1991, "The choice of cell fate in the epidermis of drosophila", Cell 64:1083-1092
C21	Henderson et al., 1994, "lag-2 may encode a signaling ligand for the GLP-1 and LIN-12 receptors of <i>C. elegans</i> ", Development 120:2913-2924
C22	Hopp, T. & Woods, K., 1981, "Prediction of protein antigenic determinants from amino acid sequences", PNAS USA 78:3824
C23	Kidd & Young, 1986, "Sequence of the notch locus of <i>Drosophila melanogaster</i> : relationship of the encoded protein to mammalian clotting and growth factors", Mol. Cell. Biol. 6:3094-3108
C24	Knust et al., 1987, "EGF homologous sequences encoded in the genome of drosophila melanogaster", EMBO J. 6(3): 761-766
C25	Kooh et al., 1993, "Implications of dynamic patterns of Delta and Notch expression for cellular interactions during drosophila development", Development 117:493-507
C26	Kopan & Weintraub, 1993, "Mouse Notch: expression in hair follicles correlates with cell fate determination", J. Cell. Biol. 121:631-641
C27	Kopan et al., 1994, "The intracellular domain of mouse Notch: a constitutively activated repressor of myogenesis directed at the basic helix-loop-helix region of MyoD", Development 120:2385-2396
C28	Kopczynski et al., 1988, "Delta, a Drosophila neurogenic gene, is transcriptionally complex and encodes a protein related to blood coagulation factors and epidermal growth factor of vertebrates", Genes Dev. 2:1723-1735
C29	Kurosawa et al., 1988, "A 10-kDa cyanogen bromide fragment from the epidermal growth factor homology domain o rabbit thrombomodulin contains the primary thrombin binding site", J. Biol. Chem. 263:5993-5996
C30	Lardelli & Lendahl, 1993, "Motch A and motch B- two mouse Notch homologues coexpressed in a wide variety of tissues", Exp. Cell. Res. 204:364-372
C31	Lardelli et al., 1994, "The novel <i>Notch</i> homologue mouse <i>Notch</i> 3 lacks specific epidermal growth factor-repeats and is expressed in proliferating neuroepithelium", Mech. Dev. 46:123-136
C32	Mello et al., 1994, "The maternal genes apx-1 and glp-1 and establishment of Dorsal-ventral polarity in the early C. elegans embryo", Cell 77:95-106
C33	Muskavitch, 1994, "Delta-notch signaling and <i>Drosophila</i> cell fate choice", Dev. Biol. 166:415-430
C34	Nüsslein-Volhard et al., 1984, "Mutations affecting the pattern of the larval cuticle in <i>Drosophila melanogaster</i> ", Dev Biol. 193:267-282
	NV2 - 1282606 1

		Nye et al., 1994, "An activated Notch suppresses neurogenesis and myogenesis but not gliogenesis in mammalian
- T-	C35	cells" Development 120:2421-2430
	5026	Rebay et al., 1991, "Specific EGF repeats of Notch mediate interactions with delta and serrate: implications for notch
2 5 2003	6 36	as a multi-functional receptor". Cell 67:687-699
	C37	Rebay et al., 1993, "Specific truncations of Drosophila Notch define dominant activated and dominant negative forms
	,	of the recentor" Cell 74:319-329
RADELLA	C38	Rees et al., 1988, "The role of hydroxyaspartate and adjacent carboxylate residues in the first EGF domain of human
		factor IX", EMBO J. 7:2053-2061
	C39	Rothberg et al., 1988, "slit: An EGF-homologous locus of D. melanogaster involved in the development of the embryonic central nervous system", Cell 55:1047-1059
	G46	Sternberg, 1993, "Falling off the knife edge", Current Biol. 3:763-765
	C40	
	C41	Sudhof et al., 1985, "The LDL receptor gene: a mosaic of exons shared with different proteins", Science 228:815-822
"	C42	Suzuki et al., 1987, "Structure and expression of human thrombomodulin, a thrombin receptor on endothelium acting
		as a cofactor for protein C activation", EMBO J. 6:1891-1897
	C43	Swiatek et al., 1994, "Notch1 is essential for postimplantation development in mice", Genes Dev. 8:707-719
	C44	Tax et al., 1994, "Sequence of C. elegans lag-2 reveals a cell-signalling domain shared with Delta and Serrate of
		Drosophila". Nature 368:150-154
	C45	Technau & Campos-Ortega, 1986, "Lineage analysis of transplanted individual cells in embryos of Drosophila
		melanogaster", Dev. Biol. 195:445-454 Thomas et al., 1991, "The Drosophila gene Serrate encodes an EGF-like transmembrane protein with a complex
i	C46	expression pattern in embryos and wing discs", Development 111:749-761
	647	Vässain et al., 1987, "the neurogenic gene Delta of <i>Drosophila melanogaster</i> is expressed in neurogenic territories and
'	C47	encodes a putative transmembrane protein with EGF-like repeats", EMBO J. 6:3431-3440
	C48	Vässain et al., 1985, "Genetic interactions in early neurogenesis of Drosophila melanogaster", J. Neurogenet. 2:291-
	L 40	308
	C49	Weinmaster et al., 1991, "A homolog of drosophila Notch expressed during mammalian development", Development
- <u></u>		Weinmaster et al., 1992, "Notch2: a second mammalian Notch gene", Development 116:931-941
	C50	
	C51	Wharton et al., 1985, "Nucleotide sequence from the neurogenic locus Notch implies a gene product that shares
		homology with proteins containing EGF-like repeats", Cell 43:567-581 Wieschaus et al., 1984, "Mutations affecting the pattern of the larval cuticle in <i>Drosophila melanogaster</i> ", Dev. Biol.
	C52	193:296-307
	C53	Xu et al., 1990, "The <i>notch</i> locus and the genetic circuitry involved in early <i>drosophila</i> neurogenesis", Genes Dev.
	C33	4:464-475
	C54	Yochem et al., 1988, "The Caenorhabditis elegans lin-12 gene encodes a transmembrane protein with overall
		similarity to Drosophila Notch", Nature 335:547-550
	C55	Henrique D, Adam J, 1995, Expression of a Delta homologue in prospective neurons in the chick. Nature
18 UT.	<u> </u>	375(6534):787-90. Bettenhausen et al., 1995, "Transient and restricted expression during mouse embryogenesis of DLL1, a murine gene
	C56	closely related to <i>Drosophila Delta</i> ", Development.121(8):2407-2418.
	CEZ	Chitnis et al., 1995, "Primary neurogenesis in Xenopus embryos regulated by a homologue of the Drosophila
	C57	neurogenic gene <i>Delta</i> ", Nature. 375(6534):761-766.
	C58	Lindsell et al., 1995, "Jagged: A Mammalian Ligand that Activates Notch 1", Cell 80:909-917
	C59	Nye and Kopan, 1995, "Vertebrate Ligands for Notch", Current Biology 5(9):966-969
		Ellisen et al., 1991, "TAN-1, the Human Homolog of the Drosophilia Notch Gene, is Broken by Chromosomal
	C60	Tranlocations in T Lymphoblastic Neoplasms", Cell 66:649-661
**************************************	001	Betenhausen et al., 1995, "Efficient isolation of novel mouse genes differentially expressed in early postimplantation
	C61	embryos", Genomics 28:436-441
	-	Artavanis-Tsakonas et al., 1991, "The <i>Notch</i> locus and the cell biology of neuroblast segregation", Annu. Rev. Cell.
	C62	
	C62	Biol. 7:427-452
	C62	Austin et al., 1995, "Vertebrate retinal ganglion cells are selected from competent progenitors by the action of Notch"
	<u>-</u>	

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.